



Technology Demonstration Summary Sheet

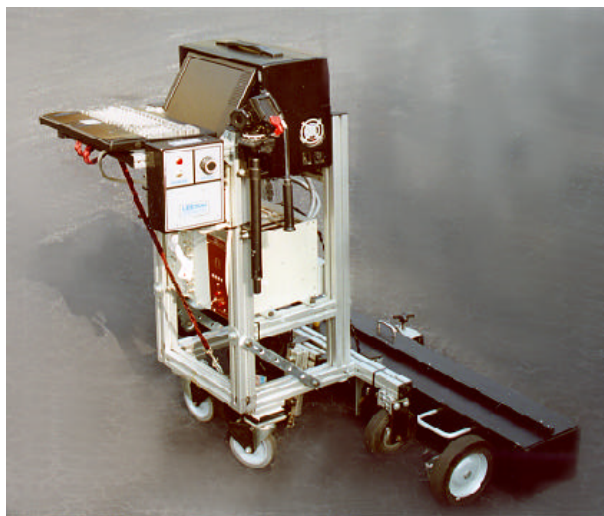
SRA Surface Contamination Monitor

THE NEED

Surveying and documentation of surfaces for alpha and beta contamination is a major issue faced in any decontamination project. Automated surveying systems that record and display data as collected coupled with post-survey computer processing of the collected data can enhance survey reliability and reduce survey costs.

THE TECHNOLOGY

The SRA Surface Contamination Monitor uses a position-sensitive gas-proportional counter to measure alpha and beta decontamination on floor surfaces. The position sensitivity of the counter allows survey data to be sampled in 5-cm square regions along the length of the monitor, which can be varied up to 5-m or longer. The monitor is mounted on a motorized cart with a wheel position encoder that determines the sample position as a function of the distance along the survey slice. The data for each recorder position within the slice is logged electronically as well as displayed on an LCD screen for the operator. The data from each survey slice is recombined in the post survey processor to obtain visual representations of the surfaces surveyed, to generate a data report detailing the actual numerical results, and to overlay the data into a CAD drawing.



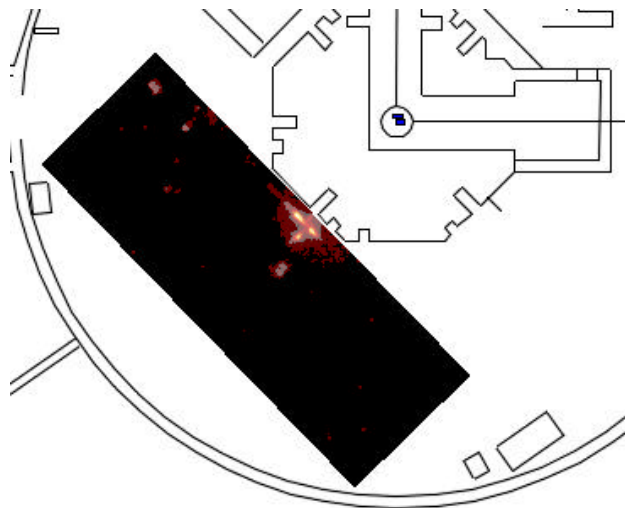
Surface Contamination Monitor

THE DEMONSTRATION

The SRA Surface Contamination Monitor was demonstrated in December 1996 at Argonne National Laboratory's CP-5 reactor as part of the CP-5 Large Scale Demonstration Program funded by DOE's Federal Energy Technology Center. Test areas for the demonstration were concrete areas on the main and the service floors of CP-5, where portions of the floor contained fixed beta contamination. Contamination levels measured by baseline manual surveys ranged from free release for beta to greater than 700,000 dpm per 100 cm².

THE RESULTS

The figure below shows a 5 by 13-m long area surveyed by the SRA monitor. The data was generated from four survey slices. The entire survey, post-survey processing and report generation required approximately 30 to 45 minutes.



Results of Scan of CP-5 Reactor Service Floor Survey

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